

FIG. 1

A SWLA1: LIGHT CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VL DOMAIN OF CHIMERIC ANTIBODY TEDW

EcoRV (242)
GGGGATATCCACCATGGAGACAGACACACTCCTGCTATGGGTGCTGCTGCTCTGGGTTCCAGGTTCCACAGGTGACATTGT
▶ M E T D T L L L W V L L L W V P G S T G D I V
PstI (377)
GCTGACCCAATCTCCAGTTTCTTTGGCTGTGTCTCTAGGGCAGAGGGCCACCATATCCTGCAGAGCCAGTGAAAGTGTTGA
▶ L T Q S P V S L A V S L G Q R A T I S C R A S E S V D
KpnI (427)
TAGTTATGGCAATAGTTTTATGAACTGGTACCAGCAGAAACCAGGACAGCCACCCCAACTCCTCATCTATCGTGCATCCAA
▶ S Y G N S F M N W Y Q Q K P G Q P P Q L L I Y R A S N
XbaI (482)
TCTAGAATACGGGATCCCTGCCAGGTTCACTGGCAGTGGGTCTAGGACAGACTTCACCCTCACCATTAATCCTGTGGAGGC
▶ L E Y G I P A R F S G S G S R T D F T L T I N P V E A
TGATGATGTTGCAACCTATTACTGTCAGCAAAATAATGCGGATCCTCCACGTTTCGGAGGGGGGACCAAGTTGGAAATCAA
▶ D D V A T Y Y C Q Q N N A D P P T F G G G T K L E I K
SalI (650)
ACGTAAGTCGACGCT
▶ R K S

B SWLA1: HEAVY CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VH DOMAIN OF CHIMERIC ANTIBODY TEDW

EcoRV (242)
GGGGATATCCACCATGGCTGTCTTGGGGCTGCTCTTCTGCCTGGTGACATTCCCAAGCTGTGTCTCCTGTCCCAGGTGC
▶ M A V L G L L F C L V T F P S C V L S Q V
AGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATCACATGCACTGTCTCAGGGTTCTCA
▶ Q L K E S G P G L V A P S Q S L S I T C T V S G F S
TTAACCAACTATGATATAAATTGGGTTTCGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGGAATAATATGGGGTGA
▶ L T N Y D I N W V R Q P P G K G L E W L G I I W G D
CGGGAGCACAAATTATCATTTCAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAATTTCT
▶ G S T N Y H S A L I S R L S I S K D N S K S Q I F
TAAACTGAACAGTCTGCAAACTGATGACACAGCCACGTACTACTGTAACCTACCCGTGTTTATATTTCTATGGTATG
▶ L K L N S L Q T D D T A T Y Y C N Y P C L Y F Y G M
NheI (663) SalI (684)
GACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCTTCAGCTAGCACAAACAGCCCCATCAGTCGACCCA
▶ D Y W G Q G T S V T V S S A S

FIG. 2

A

SWLA2: LIGHT CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
VL DOMAIN OF CHIMERIC ANTIBODY TEF*

EcoRV (243)
GGGGATATCCACCATGGATTTTCAAGTGCAGATTTTCAGCTTCCTGCTAATCAGTGTACAGTCATATTGACCAATGGAGAAA
▶ M D F Q V Q I F S F L L I S V T V I L T N G E
BstEII (372) PstI (384)
TTTTGCTCACCCCGTCTCCAGCAATCATAGCTGCATCTCCTGGGGAAAAGGTACCATCACCTGCAGTGCCAGCTCAAGTGTT
▶ I L L T P S P A I I A A S P G E K V T I T C S A S S S V
KpnI (419)
AGTTACATGAACTGGTACCAGCAGAAACCAGGATCTTCCCCAAAATCTGGATTTATGGTGTATCCAACCTGGCTTCTGGAGT
▶ S Y M N W Y Q Q K P G S S P K I W I Y G V S N L A S G V
TCCTGCTCGCTTCAGTGGCAGTGGGTCTGGGACATCTTTCTCTTTCACAATCAACAGCATGGAGGCTGAAGATGTTGCCACTT
▶ P A R F S G S G S G T S F S F T I N S M E A E D V A T
Sall (642)
ATTACTGTCAGCAAAGGAGTAGTTACCCATTACGTTTCGGCTCGGGGACCAAGCTGGAAATAAAACGTAAGTCGACGCT
▶ Y Y C Q Q R S S Y P F T F G S G T K L E I K R K S

B

SWLA2: HEAVY CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
VH DOMAIN OF CHIMERIC ANTIBODY TEF*

EcoRV (242) NdeI (295)
GGGATATCCACCATGGACAGGCTTACTTCTTCATTCTGCTACTGATTGTTCTGTCATATGTCCTCTCCCAGGTTACTCT
▶ M D R L T S S F L L L I V P A Y V L S Q V T L
GAAAGAGTCTGGCCCTGGGATATTGCAGCCCTCCCAGACCCTCAGTCTGACTTGTTCTTTCTCTGGGTTTTCACTGAGAA
▶ K E S G P G I L Q P S Q T L S L T C S F S G F S L R
CTTATGGTATAGGAGTAGGCTGGATTTCGTCAGCCCTCAGGGAGGGGTCTGGAGTGGCTGGCACACATTTGGTGGGAATGAT
▶ T Y G I G V G W I R Q P S G R G L E W L A H I W W N D
ScaI (484)
AATAAGTACTATAACACAGTCCTGAAGAGCCGGCTCACAATCTCCAAGGATACCTCCAACAACCAGGTATTCCTCAAGAT
▶ N K Y Y N T V L K S R L T I S K D T S N N Q V F L K I
CGCCAGTGTGGACACTGCAGATACTGCCACATACTACTGTGCGGAATAGAGGGGGGCTCGGGCTACGATGTTATGGACT
▶ A S V D T A D T A T Y Y C A R I E G G S G Y D V M D
NheI (675) Sall (696)
ACTGGGGTCAAGGAATCTCAGTCACCGTCTCTTCAGCTAGCACAACACCCCATCTGTGACCCA
▶ Y W G Q G I S V T V S S A S

FIG. 3

A SWLA3: LIGHT CHAIN SEQUENCE *DNA AND AMINO ACID SEQUENCE OF THE VL DOMAIN OF CHIMERIC ANTIBODY TEFC*

EcoRV (242)

GGGATATCCACCATGATGAGTCCTGCCCAGTTCCTGTTTCTGTTAGTGTCTGGATTGCGGAAACCAACGGTGATGTTGTG

▶ M M S P A Q F L F L L V L W I R E T N G D V V

BstEI (347)

ATGACCCAGACTCCACTCACTTTGTGCGTTACCATTTGGACAACCAGCCTCCATCTCTTGCAAGTCAAGTCAGAGCCTCTTA

▶ M T Q T P L T L S V T I G Q P A S I S C K S S Q S L L

GATCGTGATGGAAGGACATATTTGAGTTGGTTGTTACAGAGGCCAGGCCAGTCTCAAAGCGCCTAATCTATCTGGTGTCT

▶ D R D G R T Y L S W L L Q R P G Q S P K R L I Y L V S

AAACTGGACTCTGGAGTCCCTGACAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACTGAAAATCAGCAGAGTGGAG

▶ K L D S G V P D R F T G S G S G T D F T L K I S R V E

GCTGAGGATTTGGGAGTTTATTATTGCTGGCAAGGTACACATTTTCCGCTCACGTTCCGGTGTCTGGGACCAAGCTGGAGCTG

▶ A E D L G V Y Y C W Q G T H F P L T F G A G T K L E L

SclI (653)

AAACGTAAGTCGACC

▶ K R K S

B SWLA3: HEAVY CHAIN SEQUENCE *DNA AND AMINO ACID SEQUENCE OF THE VH DOMAIN OF CHIMERIC ANTIBODY TEFC*

EcoRV (1425)

GATATCCACCATGGACTTCGGGTTGAGCTTGGTMTTCCCTGTCTTACTTTAAAAGGTGTCCAGTGTGACGTGAAGCTGGT

▶ M D F G L S L V F L V L T L K G V Q C D V K L V

GGAGTCTGGGGGAGGCTTAGTGAACCCCTGGAGGGTCCCTGAAACTCTCCTGTGCAGCCTCTGGATTCACTTTAGTAGCTA

▶ E S G G G L V N P G G S L K L S C A A S G F T F S S Y

BspEI (1611)

TACCATGTCTTGGGTTCCGACACTCCGAGAGAAGAGGCTGGAGTGGGTGCGATCCATTAGTAGTGGTGGTACTTACACCTA

▶ T M S W V R Q T P E K R L E W V A S I S S G G T Y T Y

CTATCCAGACAGTGTGAAGGGCCGATTCAACATCTCCAGAGACAATGCCAAGAACACCCCTGTACCTGCAAATGACCAGTCT

▶ Y P D S V K G R F T I S R D N A K N T L Y L Q M T S L

GAAGTCTGAGGACACAGCCATGTATTACTGTTCAGAGATGACGGCTCCTACGGCTCCTATTACTATGCTATGGACTACTG

▶ K S E D T A M Y Y C S R D D G S Y G S Y Y Y A M D Y W

NheI (1861)

GGGTCAAGGAACCTCAGTCACGCTCTCTTCAGCTAGCTCAACACCCCCATCAGTCGACCCA

▶ G Q G T S V T V S S A S

FIG. 4

SWLA1: LIGHT CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
ABERRANT VL DOMAIN*

EcoRI EcoRV
CAGAATTCGCCCTTGGGGATATCCACCATGGAGACAGACACACTCCTGCTATGGGTACTGCTGCTCTGGGTTCAGGT
 ▶ M E T D T L L L W V L L L W V P G
TCCACTGGTGACATTGTGCTGACACAGTCTCCTGCTTCCTTAGCTGTATCTCTGGGGCAGAGGGCCACCATCTCATAC
▶ S T G D I V L T Q S P A S L A V S L G Q R A T I S Y
AGGGCCAGCAAAAGTGTGAGTACATCTGGCTATAGTTATATGCACTGGAACCAACAGAAACCAGGACAGCCACCCAGA
▶ R A S K S V S T S G Y S Y M H W N Q Q K P G Q P P R
 EcoO109I
CTCCTCATCTATCTTGTATCCAACCTAGAATCTGGGGTCCCTGCCAGGTTCACTGGCAGTGGGTCTGGGACAGACTTC
▶ L L I Y L V S N L E S G V P A R F S G S G S G T D F
 PflMI
ACCCTCAACATCCATCCTGTGGAGGAGGAGGATGCTGCAACCTATTACTGTCAGCACATTAGGGAGCTTACACGTTTCG
▶ T L N I H P V E E E D A A T Y Y C Q H I R E L T R S
GAGGGGGACCAAGCTGGAAATAAAACGGNCTNATGCTGCACCAACTGTATCCATCTTNAANAACATCAGTTCTAGAG
▶ E G G P S W K .
 EcoRI
AAGGGCGAATTCC

FIG. 5

SWLA1: HEAVY CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
NON-EFFECTIVE 2ND VH DOMAIN*

EcoRV (242)
GGGGATATCCACCATGAACITCGGGTTGAGCTGGGTTTCTTTGTTGTTTTTATCAAGGTTGTCATTGTGAGGTGCA
 ▶ M N F G L S W V F F V V F Y Q G V H C E V Q
GCTTGTGAGACTGGTGGAGGATTGGTGCAGCCTAAAGGGTCATTGAAACTCTCATGTGCAGCCTCTGGATTACCTT
▶ L V E T G G G L V Q P K G S L K L S C A A S G F T F
CAATACCAATGCCATGAACITCGGGTCCGCCAGGCTCCAGGAAAGGGTTTGGAAATGGGTTGCTCGCATAAGAAGTAAAAG
▶ N T N A M N W V R Q A P G K G L E W V A R I R S K S
TAATAACTATGCAACATATTATGCCGATTTCAGTGGAGACAGGTTTACCATTCTCCAGAGATGATTCACAAAGCATGCT
▶ N N Y A T Y Y A D S V E D R F T I S R D D S Q S M L
CTATCTGCAAATGAACAACTTGAAAACAGGACACAGCCATGTATTACTGTGTGAGAACTACTATGATTACGACGC
▶ Y L Q M N N L K T E D T A M Y Y C V R N Y Y D Y D A
 NheI (675)
CTGGTCCGCTTACTGGGGCCAAGGGACTGTGGTCACTGTCTCTTCAGCTAGCACAACACCCCCATCAGTCTACCCA
▶ W S A Y W G Q G T V V T V S S A S

FIG. 6

SWLA1: HEAVY CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE ABERRANT VH DOMAIN

EcoRI EcoRV
CAGAATTCGCCCTTGGGGATATCCACCATGGAGACAGACACACTCCTGCTATGGGTACTGCTGCTCTGGGTTCCAGGT
 ▶ M E T D T L L L W V L L L W V P G
TCCACTGGTGACATTGTGCTGACACAGTCTCCTGCTTCCTTAGCTGTATCTCTGGGGCAGAGGGCCACCATCTCATAC
▶ S T G D I V L T Q S P A S L A V S L G Q R A T I S Y
AGGGCCAGCAAAAGTGTCACTACATCTGGCTATAGTTATATGCACTGGAACCAACAGAAACCAGGACAGCCACCCAGA
▶ R A S K S V S T S G Y S Y M H W N Q Q K P G Q P P R
 EcoO109I
CTCCTCATCTATCTTGTATCCAACCTAGAATCTGGGGTCCCTGCCAGGTTCACTGGCAGTGGGTCTGGGACAGACTTC
▶ L L I Y L V S N L E S G V P A R F S G S G S G T D F
 PflMI
ACCCTCAACATCCATCCTGTGGAGGAGGAGGATGCTGCAACCTATTACTGTCAGCACATTAGGGAGCTTACACGTTTCG
▶ T L N I H P V E E E D A A T Y Y C Q H I R E L T R S
GAGGGGGGACCAAGCTGGAATAAAACGGNCTNATGCTGCACCAACTGTATCCATCTTNAANCAATCAGTTCTAGAG
▶ E G G P S W K .
 EcoRI
AAGGGCGAATTCC

FIG. 7

SWLA2: HEAVY CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE ABERRANT VH DOMAIN

EcoRI EcoRV
GGAATTCGCCCTTGGGGATATCCACCATGGGATGGAGCTGGGTGCTGCTCTTTCTCCTGGCAGGAACTGCAGGTGTCCT
 ▶ M G W S W V M L F L L A G T A G V L
 EcoRV
CTCTGAGGTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCT
▶ S E V Q L Q Q S G P E L V K P G A S V K I S C K T S
GGATACACATTCACTGAATACAACATGCACTGGGTGAAACAGAGCCATGGAAAGAGCCTTGAGTGGATTGGAGGTATTA
▶ G Y T F T E Y N M H W V K Q S H G K S L E W I G G I
ATCCTAACAATGGTGGTACTAGTTACAACCAGAAGTTCAAGGCCAAGGCCACATTGACTGTAGACAAGTCTCCAGCAC
▶ N P N N G G T S Y N Q K F K A K A T L T V D K S S S T
AGCCTACATGGAGCTCCGCAACCTGACATCTGAGGATTCTGCAGTCTATTACTGTGCAAGGGGGGTTTATGATGGTTA
▶ A Y M E L R N L T S E D S A V Y Y C A R G V Y D G Y
CTCCCTTTTGACTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCAGCCAAAACAACAGCCCCATCGGTCTATCCAC
▶ S L L T T G A K A P L S Q S P Q P K Q Q P H R S I H
TGGCCCCTG
▶ W P L

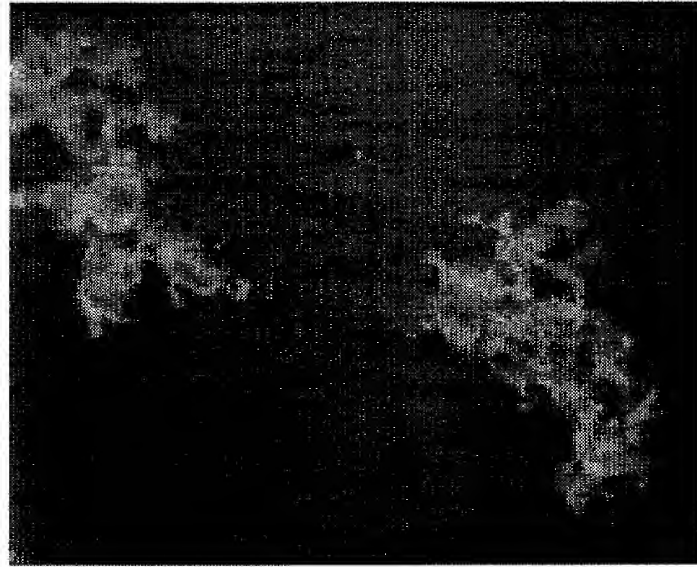
FIG. 8

LIGHT AND FLUORESCENT MICROSCOPE IMAGES
CHIMERIC ANTIBODY TEDW BINDING TO *S. MUTANS*



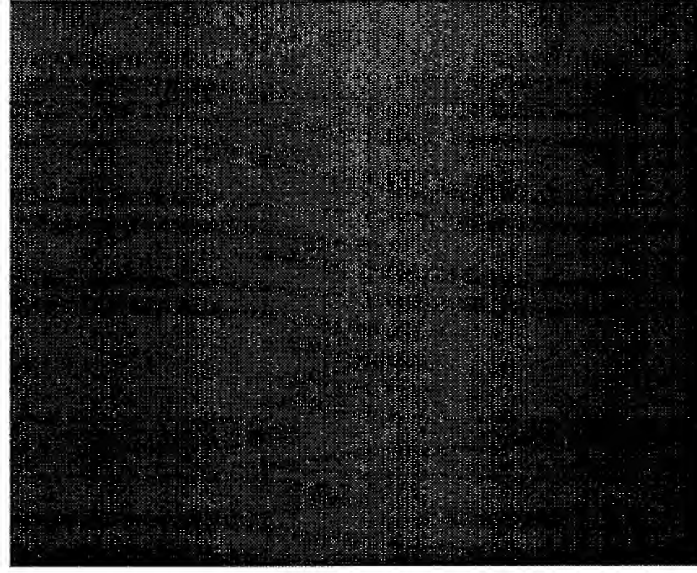
S. mutans
+TEDW

Light microscope



S. mutans
+TEDW
+Sigma F9512

Fluorescent microscope



S. mutans
+TEDW
+Sigma F5387